pycircstat Documentation

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Philipp Berens et al.

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Contents

All functions take arguments in radians. For a detailed description of arguments and outputs consult the help text of the respective functions.

The implementation follows in most cases 'Biostatistical Analysis' and all referenced equations and tables are taken from this book, if not otherwise noted. In some cases, the other books were preferred for implementation was more straightforward for solutions presented there.

If you have suggestions, bugs or feature requests or want to contribute code, please email us.

Contents:

1.1 Descriptive Circular Statistics

1.2 Tests

1.3 Circular Distributions

1.4 Machine Learning

1.5 Regression Models

Example for circular-linear regression

```python
# generate toy data
alpha = np.random.rand(200)*np.pi*2
a0 = np.random.rand()*2*np.pi
A0 = np.abs(np.random.randn())
m0 = np.random.randn()*10
x = m0 + A0*np.cos(alpha - a0)

# generate regressor
reg = CircularLinearRegression()

# train regressor
reg.train(alpha, x)

# predict
x2 = reg(alpha)
```

```
# look at coefficients
print(reg[:])
```

1.6 Tools for event series

1.7 Iterators and Generators

1.8 Decorators

Disclaimer:

All functions in this toolbox were implemented with care and tested on the examples presented in 'Biostatistical Analysis' where possible. Nevertheless, they may contain errors or bugs, which may affect the outcome of your analysis. We do not take responsibility for any harm coming from using this toolbox, neither if it is caused by errors in the software nor if it is caused by its improper application. Please email us any bugs you find.

CHAPTER 3

Indices and tables

- genindex
- modindex
- search

Bibliography

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